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Abstract

The aim is to evaluate the effectiveness of community health teaching focused on the importance of increasing home temperature in order to reduce respiratory symptoms and disease. Studies exists that prove that under-heated homes cause high-risk for children to develop respiratory illnesses. Our methods include a pretest-posttest which will be used to evaluate the learning of the parents. An adapted Health Belief Model survey using a standard Likert scale will also be used. Analysis will be conducted using demographic information and reported using descriptive data. Survey data will be reported using inferential data and analyzed with a matched t-test to determine if there was a change. Limits in this study are: self-reporting nature, volunteer sampling, and lack of control of extraneous variables.

Background and Significance

- **Research Question:** For children living in under-heated homes, does educating the families reduce the incidences of reported respiratory illnesses
- **Hypothesis:** If families in under-heated homes are educated on how to cost effectively heat their homes, then reported incidents of respiratory illnesses in their children will decrease
- Evident connection between poor housing conditions and health
- Poor housing conditions CREATE potential for respiratory illnesses in children
  - 15% of children living in under-heated homes for ≥3 years have respiratory illnesses
- Education on proper home conditions can decrease the occurrence of respiratory illnesses
- No sufficient and/or recent studies conducted to address this issue

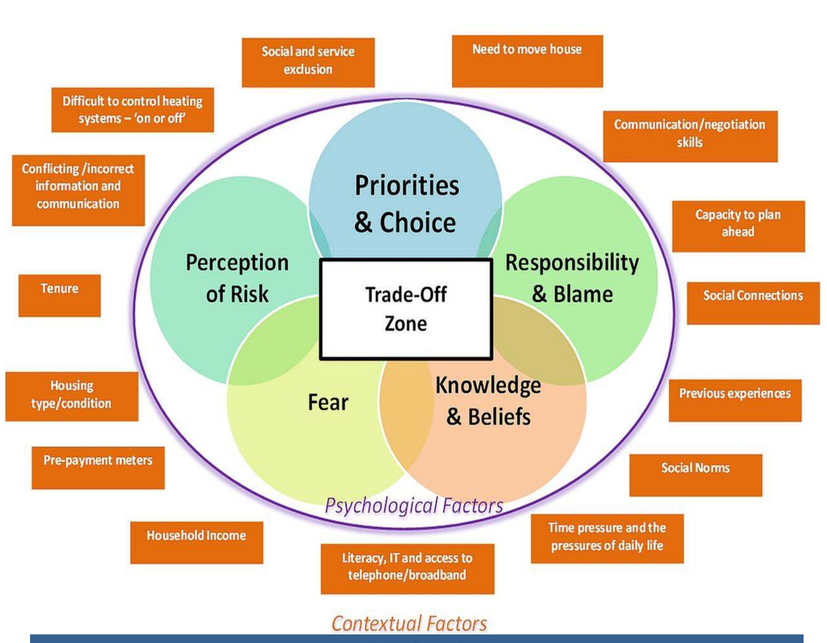

Figure 1. The trade-off zone. The model represents some of the contextual and psychological factors found in the research and aims to help professionals understand how similar challenges may lead to different behavior outcomes within different families.

Methods

- **Design:** Quasi-experimental, pretest posttest
- **Sample:** N=1800, Children between ages 5-12, living in the home, enrolled in a Norfolk public school, randomly selected
- With a 95% confidence level and 5% margin of error we expect about 400 responses
- **Setting:** Children residing in Norfolk Public School districts
- **Instruments:** General demographic survey to include:
  - Number of children in home, ages and gender
  - Avg. home temperature
  - Household income
  - Level of Education
- Health Belief Model Survey to increase:
  - Perceived susceptibility
  - Perceived severity
  - Perceived benefits (<respiratory illnesses)
  - Perceived barriers (>costs)
- Participants will use the Likert scale in answering survey questions.
  - Information was gathered through volunteer participation of the parents
- **Intervention:** Educational meeting conducted at school will provided equal opportunity for parents to attend and participate in the study
- Pretest given prior to educational meeting (May-June)
- 1st Posttest given first spring following winter months
- 2nd Posttest given in the spring 1 year after 1st posttest is given

Analysis

- Descriptive statistics:
  - Demographics:
    - Home temperature
    - # of incidents of respiratory illnesses
  - Frequencies:
    - Household income
    - Type of home
- Inferential Statistics
  - T-tests to evaluate differences in parents' knowledge AND differences in parent reports of respiratory illness between:
    - Pretest and 1st posttest survey scores
    - Pretest and 2nd posttest survey scores
    - 1st and 2nd posttest survey scores

Interprofessional Roles and Responsibilities

- Financial Counselor
  - Helping the family identify priorities on how to effectively budget for utility and household expenses
  - Maintaining monthly and weekly financial records
- Community/Public Health
  - Continued education on the correlation of under heated homes and risks for respiratory illnesses
  - Assisting parents with available resources
- Nursing
  - Conducting thorough assessments
  - Providing family education

Expected Findings

- Parents will have gained or increased their knowledge on the correlation between home heat and respiratory illnesses
  - Parents will be aware of access to local community services (ex. Dominion Power) to help with home insulation and other services
- Education of parents in the community will continue beyond this study
- It is expected to have an overall reduction in child respiratory illnesses

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